

**Commonwealth of Kentucky  
Environmental and Public Protection Cabinet  
Department for Environmental Protection  
Division for Air Quality  
803 Schenkel Lane  
Frankfort, Kentucky 40601  
(502) 573-3382**

**STATE ORIGIN  
AIR QUALITY PERMIT**

**Permittee Name:** Emerson Electric Co  
**Mailing Address:** 150 Emerson BY-Pass Road Russellville, KY 42276

**Source Name:** Emerson Electric  
**Mailing Address:** Same as above  
**Source Location:** 150 Emerson By-Pass Road Russellville, KY 42276

**KYEIS ID #:** 21-141-00004  
**SIC Code:** 3621

**Regional Office** Bowling Green Regional Office  
1508 Western Avenue  
Bowling Green, KY 42104-3356  
(270) 746-7475

**County:** Logan

**Permit Number:** S-03-013  
**Log Number:** 54155  
**Permit Type:** Minor Source (Renewal, Operating)

**Application**  
**Complete Date:** June 14, 2004  
**Issuance Date:** June 14 2004  
**Expiration Date:** June 14, 2014

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**John S. Lyons, Director  
Division for Air Quality**

## **SECTION A - PERMIT AUTHORIZATION**

Pursuant to a duly submitted application the Kentucky Division for Air Quality hereby authorizes the operation of the equipment described herein in accordance with the terms and conditions of this permit. This permit has been issued under the provisions of Kentucky Revised Statutes Chapter 224 and regulations promulgated pursuant thereto.

The permittee shall not construct, reconstruct, or modify an affected facility without first having submitted a complete application and receiving a permit for the planned activity from the Division, except as provided in this permit or in 401 KAR 52:040, State-origin permits.

Issuance of this permit does not relieve the permittee from the responsibility of obtaining other permits, licenses, or approvals that may be required by the Cabinet or other federal, state, or local agencies.

## **SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS**

### **Emission unit: 01 (53-60) Four Gas Fired Lamination Burn-Off Furnaces**

#### **Description:**

The furnaces are to remove punching lubrication oil from laminations.

Maximum operating rate: 4.5 Tons/hr

Construction Commenced: Prior to 1971

#### **Applicable Regulations:**

401 KAR 61:020, Existing Process Operations applicable to emission units commenced on or before July 2, 1975

#### **1. Operating Limitations:**

None

#### **2. Emission Limitations:**

a. Pursuant to Regulation 401 KAR 61:020, Section 3 (2)(b), particulate emissions into the open air shall not exceed  $[4.10(P)^{0.67}]$  lbs/hour based on a three-hour-average where P is the processing rate in tons/hour. Compliance with the particulate emission standard may be demonstrated by calculating particulate emissions using the following formula:

Particulate emissions: 
$$\frac{[(\text{weekly operating rate in tons/week}) * (\text{emission factor (lb/ton)})]}{\text{divided by (weekly hours of operation)}}$$

If throughput is less than or equal 1000 lbs/hr, the emission units is 2.58 lbs/hr.

b. Pursuant to 401 KAR 61:020, Section 3(a), visible emissions shall not equal or exceed 40% opacity.

c. These units are considered to be in compliance with the allowable SO<sub>2</sub>, PM, and opacity limitations while burning natural gas.

#### **3. Testing Requirements:**

None

#### **4. Monitoring Requirements:**

The permittee shall monitor the natural gas usage on a weekly basis.

#### **5. Recordkeeping Requirements:**

Records of the amount of natural gas burned shall be maintained on a weekly basis.

#### **6. Reporting Requirements:**

See Section C, General Conditions, C1, C2, and C3.

## **SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

### **Emission unit: 02 (98--99) One-Gas Fired Lamination Burn-Off Furnace**

#### **Description:**

The furnace is to remove punching lubrication oil from lamination.

Maximum operating rate: 3.05 Tons/hr

Construction Commenced: After 1975

#### **Applicable Regulations:**

401 KAR 59:010, New Process Operations, applicable to emission units commenced on or after July 2, 1975

#### **1. Operating Limitations:**

None

#### **2. Emission Limitations:**

- a. Pursuant to Regulation 401 KAR 59:010, Section 3(2), particulate emissions into the open air shall not exceed  $E = [3.59(P)^{0.62}]$  lbs/hour based on a three-hour-average where P is the processing rate in tons/hour. Compliance with the particulate emission standard may be demonstrated by calculating particulate emissions using the following formula:

Particulate emissions:  $[(\text{weekly operating rate in tons/week}) * (\text{emission factor (lb/ton)})]$   
divided by (weekly hours of operation)]

If throughput is less than or equal 1000 lbs/hr, the emission units is 2.58 lbs/hr.

- b. Pursuant to 401 KAR 59:010 Section 3(1), any continuous emissions into the open air shall not equal or exceed twenty percent (20%) opacity.
- c. These units are considered to be in compliance with the allowable SO<sub>2</sub>, PM, and opacity limitations while burning natural gas.

#### **3. Testing Requirements:**

None

#### **4. Monitoring Requirements:**

The permittee shall monitor the natural gas usage on a weekly basis.

#### **5. Recordkeeping Requirements:**

Records of the amount of natural gas burned shall be maintained on a weekly basis.

**SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

**6. Reporting Requirements:**

See Section C, General Conditions C1, C2, and C3.

**SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

**Emission unit: 03 (11-13,36-39,40-42,45-55,100,101) -Five (5) Annealing lines**

**Description:**

The annealing lines are used to process laminations by placing a thin oxide coating on them to improve the electrical properties of laminations prior to assembling them into stators. Four annealing lines constructed in 1971, and one (1) annealing line constructed in 1993.

Maximum operating rate: 250,000 BTU/hr each

**Applicable Regulations:**

None

**1. Operating Limitations:**

None

**2. Emission Limitations:**

None

**3. Testing Requirements:**

None

**4. Monitoring Requirements:**

None

**5. Recordkeeping Requirements:**

None

**6. Reporting Requirements:**

See Section C, General Conditions C1, C2, and C3.

## **SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

**Emission unit: # 4 (01-02) -Two gas fired indirect heat exchangers**

### **Description**

Both boilers are provides production process steam and personal comfort heating.

Maximum continuous rating: (2) 11.25 mm BTU/hr each.

Construction commenced: 1961

Natural gas only.

### **Applicable Regulations:**

401 KAR 61:015, Existing Indirect Heat Exchangers applicable to an emission unit less than 250 mmBtu per hour and commenced before April 9, 1972.

#### **1. Operating Limitations:**

None

#### **2. Emission Limitations**

- a. Pursuant to 401 KAR 61:015, Section 4(1), Particulate matter emission shall not exceed 0.67 lb/mmBtu.
- b. Pursuant to 401 KAR 61:015, Section 4(3), Visible emission shall not exceed 40% opacity.
- c. Pursuant to 401 KAR 61:015, Section 5(1), Sulfur dioxide emission shall not exceed 5.5 lb/mmBtu.
- d. These units are considered to be in compliance with the allowable SO<sub>2</sub>, PM, and opacity limitations while burning natural gas.

#### **3. Testing Requirements:**

None

#### **4. Monitoring Requirements:**

The permittee shall monitor the natural gas usage on a weekly basis.

#### **5. Recordkeeping Requirements:**

Records of the amount of natural gas burned shall be maintained on a weekly basis.

#### **6. Reporting Requirements:**

See Section C, General Conditions C.1, C.2, and F.

## **SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

**Emission unit: # 5 (65-66) two Aluminum Melt Furnaces**

### **Description**

These two-melt furnaces are utilized one at a time to melt aluminum for use in die casting operations.

Maximum operating rate: 1391 tons/yr

Construction commenced: 1983

### **Applicable Regulations:**

401 KAR 59:010, New Process Operations, applicable to emission units commenced on or after July 2, 1975

401 KAR 63:021, Existing sources emitting toxic air pollutants.

### **1. Operating Limitations**

- a. The usage rate of aluminum shall not exceed 1.28 tons/hr.
- b. The usage rate of flux shall not exceed 0.357 lb/hr.
- c. Only one furnace shall be in operation at any time.
- d. Source wide emission of aluminum oxide shall not exceed 33.1 lbs/hr.

### **2. Emission Limitations:**

- a. Pursuant to Regulation 401 KAR 59:010, Section 3(2), particulate emissions into the open air shall not exceed  $[3.59(P)^{0.62}]$  lbs/hour based on a three-hour-average where P is the processing rate in tons/hour. Compliance with the allowable particulate standard may be demonstrated by calculating particulate emissions using the following formula:

### **Compliance:**

Particulate emissions:  $[(\text{weekly operating rate in tons/week}) * (\text{emission factor (lb/ton)}) \div (\text{weekly hours of operation})]$

- b. Pursuant to 401 KAR 59:010 Section 3(1), any continuous emissions into the open air shall not equal or exceed twenty percent (20%) opacity.

### **3. Testing Requirements:**

None

### **4. Monitoring Requirements:**

- a. The permittee shall monitor amount of aluminum and hours of operation to comply with the 1.a.
- b. The permittee shall monitor usage rate of flux to be in compliance with condition under operating limitation above.



**SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

**5. Recordkeeping Requirements:**

- a. The permittee shall maintain records of amount of aluminum and hours of operation to comply with the record keeping requirements in Section C, General Condition, B1, and B2.
- b. The permittee shall maintain records of flux usage and hours of operation to comply with the record keeping requirements in Section C, General Condition, B1, and B2

**6. Reporting Requirements:**

See Section C, General Conditions C1, C2, and F

**SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

**Emission unit: 06 (27,28,30-31,33-34,86& 96) Two Gas-Fired Bake Ovens (Dip and Bake Operation)**

**Description**

The tanks are utilized for dipping the stators into water based varnish and then the ovens are utilized in curing the varnish.

Maximum operating rate: 21255 gal/yr

**Applicable Regulations:**

None

**1. Operating Limitations:**

None

**2. Emission Limitations:**

None

**3. Testing Requirements:**

None

**4. Monitoring Requirements:**

None

**5. Recordkeeping Requirements:**

- a. The permittee shall maintain records of the type and number of stators processed on any given day.
- b. The permittee shall maintain records of daily varnish processed/purchased.
- c. The permittee shall maintain records of daily hours of operation for the dipping and baking operations
- d. See Section C, General Conditions C1, C2, and F.

**6. Reporting Requirements:**

See Section C, General Conditions C1, C2, and F.

## **SECTION C - GENERAL CONDITIONS**

### **A. Administrative Requirements**

1. The permittee shall comply with all conditions of this permit. Noncompliance shall be a violation of 401 KAR 52:040, Section 3(1)(b) and is grounds for enforcement action including but not limited to the termination, revocation and reissuance, or revision of this permit.
2. This permit shall remain in effect for a fixed term of ten (10) years following the original date of issuance. Permit expiration shall terminate the source's right to operate unless a timely and complete renewal application has been submitted to the Division at least six months prior to the expiration date of the permit. Upon a timely and complete submittal, the authorization to operate within the terms and conditions of this permit, including any permit shield, shall remain in effect beyond the expiration date, until the renewal permit is issued or denied by the Division [401 KAR 52:040, Section 15].
3. Any condition or portion of this permit, which becomes suspended or is ruled invalid as a result of any legal or other action shall not invalidate any other portion or condition of this permit [Material by reference by 401 KAR 52:040, Section 1a, 11].
4. Pursuant to materials incorporated by reference by 401 KAR 52:040, this permit may be revised, revoked, reopened, reissued, or terminated for cause. The filing of a request by the permittee for any permit revision, revocation, reissuance, or termination, or of a notification of a planned change or anticipated noncompliance shall not stay any permit condition. [Material incorporated by reference by 401 KAR 52:040, Section 1a, 4,5]
5. This permit does not convey property rights or exclusive privileges [Cabinet Provisions and Procedures for Issuing State-Origin Permits, Section 1a, 8].
6. Nothing in this permit shall alter or affect the liability of the permittee for any violation of applicable requirements prior to or at the time of permit issuance [401 KAR 52:040 Section 11(3)].
7. This permit shall be subject to suspension at any time the permittee fails to pay all fees within 90 days after notification as specified in 401 KAR 50:038, Air emissions fee. The permittee shall submit an annual emissions certification pursuant to 401 KAR 52:040, Section 20.
8. All previously issued construction and operating permits are hereby subsumed into this permit.

## **SECTION C - GENERAL CONDITIONS (CONTINUED)**

### **B. Recordkeeping Requirements**

1. Records of all required monitoring data and support information, including calibrations, maintenance records, and original strip chart recordings, and copies of all reports required by the Division for Air Quality, shall be retained by the permittee for a period of at least five years and shall be made available for inspection upon request by any duly authorized representative of the Division for Air Quality [401 KAR 52:040 Section 3(1)(f)].
2. The permittee shall perform compliance certification and recordkeeping sufficient to assure compliance with the terms and conditions of the permit. Documents, including reports, shall be certified by a responsible official [401 KAR 52:040, Section 21].

### **C. Reporting Requirements**

1. a. In accordance with the provisions of 401 KAR 50:055, Section 1 the permittee shall notify the Regional Office listed on the front of this permit concerning startups, shutdowns, or malfunctions as follows:
  - i. When emissions during any planned shutdowns and ensuing startups will exceed the standards, notification shall be made no later than three (3) days before the planned shutdown, or immediately following the decision to shut down, if the shutdown is due to events which could not have been foreseen three (3) days before the shutdown.
  - ii. When emissions due to malfunctions, unplanned shutdowns and ensuing startups are or may be in excess of the standards, notification shall be made as promptly as possible by telephone (or other approved electronic media) and shall submit written notice upon request.
- b. The permittee shall promptly report deviations from permit requirements including those attributed to upset conditions (other than emission exceedances covered by 1.a above), the probable cause of the deviation, and corrective or preventive measures taken; to the Regional Office listed on the front of this permit within 30 days. Other deviations from permit requirements shall be included in the semiannual report [Cabinet Provisions and Procedures for Issuing State-Origin Permits, Section 5, 3].
2. The permittee shall furnish information requested by the Cabinet to determine if cause exists for modifying, revoking and reissuing, or terminating the permit; or compliance with the permit. [Material incorporated by reference by 401 KAR 52:040, Section 1a, 8].
3. Summary reports of monitoring required by this permit shall be submitted to the Regional Office listed on the front of this permit at least every six (6) months during the life of this permit. For emission units that were still under construction or which had not commenced operation at the end of the 6-month period covered by the report and are subject to monitoring requirements in this permit, the report shall indicate that no monitoring was performed during the previous six months because the emission unit was not in operation.

## **SECTION C - GENERAL CONDITIONS (CONTINUED)**

The summary reports are due January 30th and July 30th of each year. All reports shall be Certified by a responsible official. All deviations from permit requirements shall be clearly identified in the reports [401 KAR 52:040, Section 21].

### **D. Inspections**

1. In accordance with the requirements of 401 KAR 52:040, Section 3(1)(f) the permittee shall allow authorized representatives of the Cabinet to perform the following during reasonable times:
  - a. Enter upon the premises to inspect any facility, equipment (including air pollution control equipment), practice, or operation;
  - b. To access and copy any records required by the permit;
  - c. Inspect, at reasonable times, any facilities, equipment (including monitoring and pollution control equipment), practices, or operations required by the permit. Reasonable times are defined as during all hours of operation, during normal office hours; or during an emergency.
  - d. Sample or monitor, at reasonable times, substances or parameters to assure compliance with the permit or any applicable requirements.

### **E. Emergencies/Enforcement Provisions**

1. The permittee shall not use as defense in an enforcement action, the contention that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance [Material incorporated by reference by 401 KAR 52:040, Section 1a, 3]
2. An emergency shall constitute an affirmative defense to an action brought for the noncompliance with the technology-based emission limitations if the permittee demonstrates through properly signed contemporaneous operating logs or relevant evidence that:
  - a. An emergency occurred and the permittee can identify the cause of the emergency;
  - b. The permitted facility was at the time being properly operated;
  - c. During an emergency, the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements in the permit; and
  - d. The permittee notified the Division as promptly as possible and submitted written notice of the emergency to the Division within two working days after the time when emission limitations were exceeded due to the emergency and included a description of the emergency, steps taken to mitigate emissions, and corrective actions taken.

## SECTION C - GENERAL CONDITIONS (CONTINUED)

3. Emergency provisions listed in General Condition E.2 are in addition to any emergency or upset provision contained in an applicable requirement.
4. In an enforcement proceeding, the permittee seeking to establish the occurrence of an emergency shall have the burden of proof.

### F. Compliance

1. Periodic testing or instrumental or non-instrumental monitoring, which may consist of record keeping, shall be performed to the extent necessary to yield reliable data for purposes of demonstration of continuing compliance with the conditions of this permit. For the purpose of demonstration of continuing compliance, the following guidelines shall be followed:
  - a. Pursuant to 401 KAR 50:055, General compliance requirements, Section 2(5), all air pollution control equipment and all pollution control measures proposed by the application in response to which this permit is issued shall be in place, properly maintained, and in operation at any time an affected facility for which the equipment and measures are designed is operated, except as provided by 401 KAR 50:055, Section 1.
  - b. All the air pollution control systems shall be maintained regularly in accordance with good engineering practices and the recommendations of the respective manufacturers. A log shall be kept of all routine and non-routine maintenance performed on each control device.
  - b. A log of the monthly raw material consumption and monthly production rates shall be kept available at the facility. Compliance with the emission limits may be demonstrated by computer program, spread sheets, calculations or performance tests as may be specified by the Division.
2. Pursuant to 401 KAR 52:040, Section 19, the permittee shall certify compliance with the terms and conditions contained in this permit by January 30th of each year, by completing and returning a Compliance Certification Form (DEP 7007CC) (or an approved alternative) to the Regional Office listed on the front of this permit in accordance with the following requirements:
  - a. Identification of the term or condition;
  - b. Compliance status of each term or condition of the permit;
  - c. Whether compliance was continuous or intermittent;
  - d. The method used for determining the compliance status for the source, currently and over the reporting period, and
  - e. For an emissions unit that was still under construction or which has not commenced operation at the end of the 12-month period covered by the annual compliance certification, the permittee shall indicate that the unit is under construction and that compliance with any applicable requirements will be demonstrated within the timeframes specified in the permit.
  - f. The certification shall be postmarked by January 30th of each year. Annual compliance certifications should be mailed to the following addresses:

Division for Air Quality  
Bowling Green Regional Office  
1508 Western Avenue  
Bowling Green, KY 42104-3356

Division for Air Quality  
Central Files  
803 Schenkel Lane  
Frankfort, KY 40601

**SECTION C - GENERAL CONDITIONS (CONTINUED)**

3. Permit Shield - A permit shield shall not protect the owner or operator from enforcement actions for violating an applicable requirement prior to or at the time of permit issuance. Compliance with the conditions of this permit shall be considered compliance with all:
  - (a) Applicable requirements that are included and specifically identified in this permit; or
  - (b) Non-applicable requirements expressly identified in this permit.

**SECTION D - INSIGNIFICANT ACTIVITIES**

The following listed activities have been determined to be insignificant activities for this source pursuant to 401 KAR 52:040, Section 6. While these activities are designated as insignificant the permittee shall comply with the applicable regulation and any level of periodic monitoring specified below.

<u>Description</u>	<u>Generally Applicable Regulation</u>
1. Aluminum Dunker Die Cast Machines	N/A
2. Rotor Bluing Furnace and Atmospheric gas generator	N/A
3. Fluid Eliminator	N/A
4. Rotor Bluing Furnace #2	59:010
5. Die Cast Repair Wash Tank	63:021
6. Three THT Shuttle (#1, #2, and #3) Die Cast Machines	59:010
7. Singe Operation	N/A
8. Nine (9) Rust Prevent Dip Tank	63:021
9. Dx Atmospheric Gas Generator	N/A
10. Two THT Index (#1 & #2), Die Cast Machines	59:010
11. Two Dip Tanks	63:021